APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,613	07/01/2003	Douglas B. Davis	RSW920030040US1 (094)	3998

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	EXAMINER
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ART UNIT	PAPER NUMBER
2113	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/612,613	DAVIS ET AL.
	Examiner	Art Unit	
	Elmira Mehrmanesh	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *July 1, 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/1/03* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5) ☐ Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date _____ .	6) ☐ Other: _____ .

DETAILED ACTION

The application of Davis et al., for a "Checkpointing and restarting long running

web services" filed July 1, 2003, has been examined.

Claims 1-24 are presented for examination.

Information disclosed and listed on PTO 1449 has been considered.

Claims 1-24 are rejected under 35 USC § 101.

Claims 1-24 are rejected under 35 USC § 102.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

As per claims 1-2, claimed limitations of "*processor configured...*" and "*logic*

programmed to..." are not of statutory subject matter.

A processor configured or logic programmed to perform a method are merely

software arrangements. The configuration of the processor is a computer program

claimed as computer listings per se, i.e., the descriptions or expressions of the

programs are not physical "things." They are neither computer components nor statutory

processes, as they are not "acts" being performed. Such claimed computer programs do

not define any structural and functional interrelationships between the computer

program and other claimed elements of a computer, which permit the computer

program's functionality to be realized.

As per claims 3-13, a claimed method is "descriptive material" and therefore

nonstatutory when claimed as descriptive material per se.

As per claims 14-24, the claims are not limited to tangible embodiments. In view

of Applicant's disclosure, specification on page 16, paragraph [0036] the medium is not

limited to tangible embodiments, instead being defined as including "*reproduction in a*

different material form" which is intangible embodiments. Different material form can

include intangible embodiments (e.g., optical fiber, or paper which implies the use of

intangible media such as signals, carrier waves, transmissions). As such, the claim is

not limited to statutory subject matter and is therefore non-statutory.

Applicants can refer to http://10.117.7.228/Legal/guidelines101_20051026.pdf for

the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter

Eligibility.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Doyle et

al. (U.S. PGPUB No. 20040243915)

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the

invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per claim 1, Doyle discloses a checkpoint processor (Fig. 1, element 170)

configured for coupling to individual Web services through a Web services engine (Fig.

1), said checkpoint processor comprising:

checkpoint logic (Fig. 1, element 170) programmed to store checkpoint data (Fig.

1, element 180) for the individual Web service instance invocations (Fig. 1, elements

130A, 130B)

restart logic (Fig. 2, element 220) programmed to restore said stored checkpoint

data (Fig. 2, element 230) to a replacement for failed ones of the individual Web service

instance invocations (Fig. 2, elements 240A, 240B)

cleanup logic programmed to removed (Page 3, paragraph [0036], lines 16-20

and page 4, paragraph [0045], lines 12-17) said stored checkpoint data for concluded,

non-failed ones of the individual Web service instance invocations.

As per claim 2, Doyle discloses logic for identifying an asynchronous correlator for each one of the individual Web service instance invocations and for storing said asynchronous correlator in association with corresponding ones of said stored checkpoint data (Page 3, paragraph [0036]).

As per claim 3, Doyle discloses a method for managing checkpoints in a Web application, the method comprising the steps of:

storing a state object for an invocation of a requesting Web service instance (Page 4, paragraph [0039], lines 11-15 and Fig. 2, elements 250A, 250B)

responsive to a failure in said Web service instance, restarting a replacement Web service instance and providing said state object to a replacement Web service instance for said requesting Web service instance (Page 4, paragraph [0039], lines 1-15).

As per claim 4, Doyle discloses storing step further comprises storing a unique identifier for said requesting Web service instance along with said stored state object (Fig. 3, elements 320, 330, and 350).

As per claim 5, Doyle discloses storing step further comprises the steps of:

identifying an asynchronous correlator for said invocation (Page 4, paragraph [0039], lines 1-15 and Fig. 3, elements 320, 330, and 350) storing said identified asynchronous correlator along with said stored state object (Page 4, paragraph [0039],

lines 1-15).

As per claim 6, Doyle discloses storing step comprises the steps of:

detecting a notable event in said Web service instance; and, responsive to said

detection, storing a state object for an invocation of a requesting Web service instance

(Page 4, paragraph [0039], lines 1-15).

As per claim 7 Doyle discloses storing step comprises the step of periodically

storing a state object for an invocation of a requesting Web service instance (Page 3,

paragraph [0036], lines 16-20).

As per claim 8, Doyle discloses step of providing further comprises the step of

providing said unique identifier to said replacement Web service instance (Fig. 3,

element 340).

As per claim 9, Doyle discloses step of providing further comprises the step of

providing said asynchronous correlator to said replacement Web service instance (Fig.

3, element 340).

As per claim 10, Doyle discloses step of discarding said stored state object when

said Web service invocation has completed said invocation nominally (Page 4,

paragraph [0045], lines 12-17).

As per claim 11, Doyle discloses step of storing state data for a handler chain

managing said Web service instance (Page 4, paragraph [0043]).

As per claim 12, Doyle discloses storing a residency indicator for said Web

service instance invocation (Page 4, paragraph [0039], lines 11-15)

registering at least one selected event (Fig. 1, element 190) which when received

causes an initiation of said restarting and providing steps (Fig. 3, element 380).

As per claim 13, Doyle discloses step of restarting comprises the steps of:

determining whether an existing Web service instance can act as said

replacement Web service instance (Page 2, paragraph [0019], lines 10-15).

and, if an existing Web service instance cannot be located which can act as said

replacement Web service instance, instantiating a replacement Web service instance

(Page 2, paragraph [0019], lines 15-18).

As per claim 14, Doyle discloses a machine readable storage having stored

thereon a computer program for managing checkpoints in a Web application (Page 4,

paragraph [0046]) the computer program comprising a routing set of instructions for

causing the machine to perform the steps of (Pages 4-5, paragraph [0047])

storing a state object for an invocation of a requesting Web service instance

(Page 4, paragraph [0039], lines 11-15 and Fig. 2, elements 250A, 250B)

responsive to a failure in said Web service instance, restarting a replacement

Web service instance and providing said state object to a replacement Web

service instance for said requesting Web service instance (Page 4, paragraph

[0039], lines 1-15).

As per claim 15, Doyle discloses storing step further comprises storing a unique

identifier for said requesting Web service instance along with said stored state object

(Fig. 3, elements 320, 330, and 350).

As per claim 16, Doyle discloses storing step further comprises the steps of:

identifying an asynchronous correlator for said invocation (Page 4, paragraph

[0039], lines 1-15 and Fig. 3, elements 320, 330, and 350) storing said identified

asynchronous correlator along with said stored state object (Page 4, paragraph [0039],

lines 1-15).

As per claim 17, Doyle discloses storing step comprises the steps of:

detecting a notable event in said Web service instance; and, responsive to said

detection, storing a state object for an invocation of a requesting Web service instance

(Page 4, paragraph [0039], lines 1-15).

As per claim 18, Doyle discloses storing step comprises the step of periodically storing a state object for an invocation of a requesting Web service instance (Page 3, paragraph [0036], lines 16-20).

As per claim 19, Doyle discloses step of providing further comprises the step of providing said unique identifier to said replacement Web service instance (Fig. 3, element 340).

As per claim 20, Doyle discloses said step of providing further comprises the step of providing said asynchronous correlator to said replacement Web service instance (Fig. 3, element 340).

As per claim 21, Doyle discloses step of discarding said stored state object when said Web service invocation has completed said invocation nominally (Page 4, paragraph [0045], lines 12-17).

As per claim 22, Doyle discloses step of storing state data for a handler chain managing said Web service instance (Page 4, paragraph [0043]).

As per claim 23, Doyle discloses storing a residency indicator for said Web service instance invocation (Page 4, paragraph [0039], lines 11-15)

registering at least one selected event (Fig. 1, element 190) which when received

causes an initiation of said restarting and providing steps (Fig. 3, element 380).

As per claim 24, Doyle discloses step of restarting comprises the steps of:

determining whether an existing Web service instance can act as said

replacement Web service instance (Page 2, paragraph [0019], lines 10-15).

and, if an existing Web service instance cannot be located which can act as said

replacement Web service instance, instantiating a replacement Web service instance

(Page 2, paragraph [0019], lines 15-18).

Related Prior Art

The following prior art is considered to be pertinent to applicant's invention, but

nor relied upon for claim analysis conducted above.

Doyle et al. (U.S. PGPUB No. 20040167959), "Autonomic service routing using

observed resource requirement for self-optimization".

Chalasani et al. (U.S. PGPUB No. 20040103338), "Self healing grid architecture

for decentralized component-based systems".

Chalasani et al. (U.S. PGPUB No. 20040103339), "Policy enabled grid

architecture".

Lindquist et al. (U.S. PGPUB No. 20030233602), "Dynamic binding and fail-over

of comparable Web service instances in a services grid".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmira Mehrmanesh whose telephone number is (571) 272-5531. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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